Annual Drinking Water Quality Report for 2008
Providing Water to Power the Future of Rowan County
System ID# 01-80-010
January 2009

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information. **For questions concerning the report or your water, please contact Alan Fowler, Water Laboratory Supervisor, Salisbury-Rowan Utilities – (704) 638-5372.**

Este reporte contiene información importante sobre la calidad de agua en su comunidad. Léelo o llame por teléfono al (704) 638-2168 para una traducción en Español, gratis.

What EPA Wants You to Know

Drinking Water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791)

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn On Your Tap, Consider The Source

Salisbury – Rowan Utilities' (SRU's) intake is located on the Rowan – Davie - Davidson County line at the confluence of the South Yadkin River and the Yadkin River. The Yadkin Pee Dee River basin, which has a watershed classification of WS-IV, is the second largest river basin in NC, covering 7,213 square miles of which 50% is forested. Rain that falls on the eastern slopes of the Blue Ridge Mountains in Caldwell, Wilkes, and Surry Counties begins the flow to Salisbury and High Rock Lake. For more information on flow of the Yadkin River, the **USGS web site is www.usgs.org.**

Everyone wants clean, safe drinking water and we assume this natural resource will always be available to us. However, surface water sources can be threatened by many potential contaminant sources, including permitted wastewater discharges, urban storm water runoffs, or other types of non-point source contamination such as runoff produced by agricultural activities and land clearing for development. The State of North Carolina has performed source water assessments on more than 10,000 public water supply sources. The full **Source Water Assessment Plan for the City of Salisbury can be viewed at the following web site:**

http://wse20.deh.ehnr.state.nc.us/swap/

The SWAP report contains maps, tables, and figures to present the SWAP results. To view or download the report, click on the "SWAP Reports" button on the lower right hand corner of the web page. To request a printed copy of the report, call (919) 715-2633 or email SWAP@ncmail.net . Please include the following information when making the request:

PWS System Name & Identification Number
Contact Name
Address
Phone Number

The web site also includes information regarding the methods used to arrive at the susceptibility rating and an ArcIMS Geographic Information System (GIS) viewer.

Source Name	Susceptibility Rating	SWAP Report Date
YADKIN RIVER	Higher	May 16,2007

It is important to understand that a susceptibility rating of even "higher" does not imply poor water quality. Susceptibility is an indication of a water supply's potential to become contaminated by identified potential contaminant sources within the assessment area.

In 2008, we voluntarily sampled our source water from the Yadkin River and tested it for Cryptosporidium and Giardia on a monthly basis.
January-December 2008
Cryptosporidium/Giardia – not detected

Cryptosporidium and Giardia are microscopic organisms which can cause diarrhea, fever and other gastrointestinal symptoms when ingested. Public water systems provide protection through sedimentation, filtration and disinfection. For additional information, visit the CDC website at: http://www.cdc.gov/crypto/ and: http://www.cdc.gov/ncidod/dpd/parasites/giardiasis/factsht_giardia.htm

How Your Water Treatment Plant Works

The Salisbury-Rowan Utilities' Water Treatment Plant uses a pretreatment process called ***Actiflo***, which is a high-rate clarification unit. Salisbury treats an annual average of 7 million gallons of water per day (MGD). There is off stream storage of 28 MG if the Yadkin River should ever be unsuitable for drinking water. Micro-Sand, Polymer, and Poly-Aluminum Chloride are added to the raw water as it enters the pretreatment units to begin the coagulation process. After mixing, the solids are removed by the pretreatment process. The water is allowed to settle for up to 4 hours and then it is filtered. After filtration, Sodium Hypochlorite, Fluoride and Phosphate are added and the pH is adjusted using liquid lime. Fluoride is added to promote stronger teeth, and phosphate helps to prevent pipe corrosion in the distribution system. Solids that are removed from the raw water are de-watered and eventually reapplied to farmland in Rowan County.

Facts & Figures

Salisbury-Rowan Utilities' Water Treatment Division is required to test over 100 constituents to make sure that the water you drink is safe. **We are pleased to report that for the calendar year of 2008, the water delivered to your homes and businesses complied with all state and federal requirements.** The following regulated constituents were detected in our *finished* water as analyzed between January 1 and December 31, 2008 unless otherwise noted. *Finished* water is the water that leaves our treatment plant and is distributed throughout the system to your tap.

Constituent & Unit	MCLG	MCL	Salisbury Result	Potential Source
Fluoride, mg/l	4	4	0.90	Water additive which promotes strong teeth; erosion of natural deposits, discharge from fertilizer and aluminum factories.
Total Coliform Bacteria	0	</=5% of monthly samples	0	Naturally present in the environment. A chlorine residual of 0.2 mg/l is maintained in the distribution system.
***Lead**, ug/l **analyzed in 2008*	0	AL=15	non-detected	Corrosion of household plumbing systems; erosion of natural deposits. 90% of the samples were below the action level of 15ug/l.
***Copper**, mg/l **analyzed in 2008*	1.3	AL= 1.3	0.098	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. 90% were below the action level of 1.3 mg/l.

Customers were asked to sample water from a tap in their residence during the months of June, July, August and September, 2008. All samples were tested for lead and copper.

Turbidity, NTU	n/a	TT	<0.3	Soil runoff

Turbidity is a measure of the clarity of the sample and is caused by suspended material measured in NTUs. Many items contribute to this measurement such as silt, algae, and tiny organisms. Turbidity is used to measure the effectiveness of the water treatment process. NC regulations require continuous measurement on each filter at the water plant. The combined turbidity of all filters must be <0.3 NTU on 95% of the required measurements for each month. The highest turbidity in 2008 was 0.13 NTUs resulting in *100% compliance.*

Total THMs, ug/l	80	80	34.5 average	By-product of drinking water chlorination. Values ranged from 12 ug/l to 63 ug/l in the distribution system in 2008.
Total HAAs, ug/l	60	60	28.2 average	By-product of drinking water chlorination. Values ranged from 20.9 ug/l to 39.63 ug/l in the distribution system in 2008.
Total TOC, mg/l	n/a	TT	1.63 average	Naturally present in the environment. Values ranged from 1.2 mg/l to 2.2 mg/l.

Total Organic Carbon (TOC) provides a medium for the formation of disinfection byproducts (DBPs) including Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (HAAs). SRU, in complying with requirements of the EPA Disinfectants & Disinfection Byproducts Rule – Stage 1 performed testing on paired samples of our "source" water and finished water for % Total Organic Carbon (TOC) Removal. The Treatment Plant was able to remove between 32% and 63% with an average removal rate of 45.6% during the 2008 calendar year. Required removal rate on the source water alkalinity and TOC was 35%.

Simazine, mg/l	4	4	0.00077	Herbicide Runoff

Simazene was detected in the first quarter of 2008. Because of the detection, Salisbury was placed on a quarterly schedule, removed from annual schedule. The 2nd, 3rd, and 4th quarter's results were non-detected.

Key to Unit Abbreviations

mg/l	Milligram per liter or parts per million. (One part per million or milligram per liter is like a single penny in $10,000)
ug/l	Micrograms per liter or parts per billion. (or a single penny in $10,000,000)
MCL	Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
AL	Action Level: the concentration of a contaminant that triggers treatment or other requirements that a water system must follow. Action levels are reported at the 90^{th} percentile for homes at greatest risk.
TT	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.
NTU	Nephelometric Turbidity Units. Turbidity in excess of 5 NTU is just noticeable to the average person.
n/a	Information not applicable/not required for that particular water system or for that particular rule
Non-detected	Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

Extra Note: MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Physical & Mineral Characteristics

For the 2008 calendar year

The following constituents analyzed in your water are indicators of the appearance, taste and mineral content of the drinking water as the water leaves the water plant and is then delivered to your tap.

Constituent & Unit of Measure	Annual Average
pH, standard units	6.3 to 7.5
Alkalinity, mg/l	28.5
Aluminum, mg/l	<0.01
Conductivity, micromhos/cm	51.25
Hardness, mg/l	30.8
Orthophosphate, mg/l	0.99
Sodium, mg/l	19.70
Sulfate, mg/l	9.4
Manganese, mg/l	0.0019
Iron, mg/l	0.011
Fluoride, mg/l	0.94
Chlorine, mg/l	1.85

Distribution System

Each month, the distribution system is checked for water quality compliance. Samples are checked to maintain a 0.2 mg/l chlorine residual in the system. To ensure that bacteria and other harmful organisms are removed by physical processes and disinfection chemicals and no contamination has entered the system, samples are also checked for total coliform. *All 2008 samples met compliance and were negative for total coliform.*

Salisbury-Rowan Utilities (SRU) Contacts

SRU Administration	1 Water Street	(704) 638-5205
Plant Operations Manager	Mike Frick	(704) 638-4478
Water Plant Supervisor	Keith Bowersox	(704) 638-4480
Water Quality Concerns	Water Lab	(704) 638-5372
Water Bills & Service Reconnection	Customer Service	(704) 638-5300
Line Leaks	Systems Maintenance	(704) 638-5390
Emergencies (after hours)		(704) 638-5339
New Service Connections	Development Services	(704) 638-5208
Facility Tours, Civic Club & Class Room Presentations	Utility Administration	(704) 638-5205

City of Salisbury website at www.salisburync.gov

1. **Concernimientos sobre la calidad de su agua?**
   Si usted nota un cambio en el sabor, olor o color de su agua, llame al (704) 638-5372 de 8:30am - 5:00 pm
2. **Cuenta/factura de agua o conexion de servicio?**
   Si tiene una pregunta sobre su cuenta/factura de agua o si su agua ha sido desconectada llame al (704) 638-5208
3. **Nuevo servicio / Conexion**
   Si acaba de transladarse a una nueva casa y necesita servicio de agua llame al (704) 638-5208
4. **Emergencias y escape de agua, despues de las 5 pm**
   Si ve que hay agua que esta saliendo del piso, o poca presion de agua
   En su casa u otros problemas que no pueden esperar hasta las horas regulares que son de 8:30 am – 5: 00 pm , llame al (704) 638-5339

Contract Operated Systems

The Town of East Spencer (ID# 01-80-060) purchases water from Salisbury-Rowan Utilities. SRU operates and monitors this system as well. Locations in the distribution system were tested monthly for coliform bacteria. All results for 2008 were negative. Contaminants that were detected between January 1and December 31, 2008 are listed below:

Constituent & Unit	MCLG	MCL	East Spencer Result	Potential Source
Total THM's, ug/l	80	80	58.75 average	By product of drinking water chlorination. Results in the system ranged from 25-113 ug/l.
Total HAA's, ug/l	60	60	35.4 average	By product of drinking water chlorination. Results in the system ranged from 24.1-57.2 ug/l.
Lead, ug/l*	0	AL=15	5.5	Corrosion of household plumbing systems; erosion of natural deposits. 90% were below the action level of 15 ug/l
Copper, mg/l*	1.3	AL=1.3	0.0605	Corrosion of household plumbing systems; erosion of natural deposits; 90% were below the action level of 1.3 mg/l

*From July to September of 2008, homes in East Spencer built between 1982 & 1986 were sampled for lead due to the likelihood of the use of lead solder in pipes. Pre-1982 homes were also checked. Based on the analytical results collected during this sampling period, one of the total twenty one homes tested exceeded lead action level (15 ug/l). Lead usually enters drinking water as a result of corrosion — the wearing away of materials containing lead in a water distribution system or household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome plated brass faucets, and in some cases, pipes made of lead that connect your house to the water main (service lines). The Town of East Spencer was placed on an annual monitoring schedule in 2008, replacing the previous 6-month schedule.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Salisbury-Rowan Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead

Update on Water Projects

Salisbury-Rowan Utilities is working to complete a grant-funded project on behalf of Rowan County that will result in the creation of 32 new jobs. The project involves the extension of water service to RDH Tire & Retread in western Rowan County via a new 12" water line. Ronny Turner Construction Co. is the utility contractor performing the installation, which began in December 2008 and is scheduled to be completed in February 2009.

Construction of the water/sewer in the US 29 Annexation Area Water and Sewer Project is complete.

There are three general areas of the 2007 Annexation Water and Sewer extension project and the construction has been phased into five separate contracts. Contract 1 is the Old Mocksville Road area; the project has been designed, permitted, and construction is to begin in February 2009. Contract 2 consists of the Camp Road area and it is also designed, permitted, and ready to be constructed in early February 2009. The last three contracts (3, 4, and 5) are the Harrison Road area. These contracts are designed and are currently in the process of being permitted. The expected time for beginning construction for contracts 3, 4, and 5 is April 2009.

Salisbury-Rowan Utilities is also working on behalf of the City of Salisbury and Rowan County to complete a major economic development project to provide sewer service to four interchanges of Interstate 85 from Julian Road to south of Mt. Hope Church Road by installing a sewer line running along Town Creek parallel to the Interstate. It is expected that this $6.5 million project will provide significant economic benefits and development opportunities in the Interstate 85 growth corridor. The project is expected to be under construction in early 2009.

SRU is also working to safeguard and protect the water supply and interests of all its customers through its participation in the Federal Energy Regulatory Commission (FERC) relicensing of Alcoa's Yadkin (Hydropower) Project. SRU also protects its customers and their water supply during the ongoing drought by conducting regular monitoring of the water supply to track the flow and volume of the Yadkin River and by encouraging wise use of water.

These are just a few of the many projects underway or being planned at Salisbury-Rowan Utilities as we seek to meet the growing needs of Rowan County and its communities and citizens. We continue to work and plan to ensure that our customers and communities will have a safe and plentiful supply of water both now and in the future!